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DOMESTIC SCIENCE IN ELEMENTARY DEPARTMENT OF THE ETHICAL CULTURE SCHOOL

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Although "domestic science" appears in the curriculum of the best elementary schools in the country, its meaning to many is yet obscure, and its work and function still unknown. For the last three years the Ethical Culture School has been struggling with the implied content and value of this branch, and offers here a review of the subject-matter selected—matter which at present seems best adapted to the work of the grade and the social development of the child, and material which allows a "technological" treatment of the subject rather than a technical.

The work finds its first value in the primary grades. Here it is an agent for the illustration or starting-point of some thought-idea, or the means of carrying out some social desire. It is a tool for the aid of building upon a foundation of experience. It is a means to an end—that end being such as to demand a means for expression.

In Grade I the work has been with the idea of bringing out a contrast of food and serving of peoples in different climates. The children are at work with their own home study and contrast it with the homes of the Eskimo and Japanese—peoples living in hot, moderate, and cold climates.

Work begins at home, and simple things are cooked, such as cereal, toast, apples, and garden vegetables; things familiar to the child, lacking in difficulty of technique, and of such type as can be done at home, if a little help be given. This is then contrasted with the Eskimo boy living in a cold, snowy country, filled with wild animals, where little or nothing is known of stoves, gas, utensils, etc., and only a little drift wood and steatite are available.

Method seldom furnishes a rule or recipe to be followed.

Such materials are chosen as lend themselves to a simple thought or mathematical relation, and appeal to the reason and number-sense of that age. Little work of an experimental nature is attempted; for the minds are yet too young to deduce from experiment, to realize the need for one, or to understand that growth often comes about by such means.

In Grade II the attack is to set the children, from the situation of today, back to the crude beginnings of things, and illustrate the evolutionary development of cooking and necessary utensils through the tribes of tree-dwellers, cave-men, Indians, and shepherd people. This at once puts the work on an experimental basis: We are here, and don't know what to do. Devise a way! For instance: the acorn (almost the only food of one of the Indian tribes) is bitter, bad to taste; the squirrels in the park and pigs in the pen refuse at the present day to eat it. The acorn was all they had. What could they do? Can we get rid of the bitter taste? After attempts, the facts are collected, and with a little side-light the way is deduced and manually expressed.

This work is contrasted and strengthened by present home-doings through simple cooking to be of value for Christmas, i. e., party or gift, and is of importance, as previously, in illustration and experience in mathematics, science, and English.

In Grade III the department is used to illustrate the early industries of the pioneer people, the "old-time" home manufactures. The children find the people doing many things now delegated to the factory, and for more accurate understanding of present and early practices it is well to have a few worked up in detail. The kitchen becomes a pioneer fireside, and all members of the family help in making samp, candles, and soap.

It has been possible to repeat the early conditions in part. We got the lye from ashes of an excursion and picked enough bayberries to realize the source of wax for the candles.

In Grades IV and V this study has had no place. In Grades VI and VII the work continues. Here is the subject no longer a tool in the sense of the primary work. It is a branch with definite aims and ends of its own to satisfy. The object is to give the children (for boys could well take such lessons) the underlying facts in regard to food classes and their best preparation for use, with training sufficient to develop skill in manipulation at an age when it can most economically be fostered.

Grade VI studies the food materials, with a resulting idea of food classification on the basis of certain basic elements, and the underlying reason for right cooking. In other words, familiarity is given with the laws determining right cooking of the so-called "food principles."

"Cooking is the appliction of regulated heat to known material for a given period of time"—heat, material, and time, the three important factors. Each "food principle" is worked with to determine the truth concerning its relation to these three essentials. Then follows the application to foods which can be cooked according to a law of science rather than a rule of proportion—such as potatoes, rice, eggs, etc.

With Grade VI as a basis, Grade VII proceeds to deal with "food principles" in combination through a simple course in cooking, designed also to develop skill in manipulation and encourage responsible usefulness at home. Grade VI gave knowledge of food types and laws underlying this cookery; it is now only necessary to know how more fully to recognize the type in order to apply the law, and further to discover new laws of relation existing between materials. It reduces the work to a study of good tests and the scientific development of the recipe.

The tests are simple and easily applied: iodine for starch, Fehling solution for sugar, the grease stain for fats, and millous reagent for proteids. This occupies the first few lessons, after which cooking begins. A simple starchy food is taken for the beginning—Pettijohn. Its method of cooking is understood, but its quantitative behavior with other materials is required. The simplest relation is with water. "How much Pettijohn is required to thicken one cup of water?" (This experimentally.) Then follows: "How much rolled oats is required to thicken one cup of water when Pettijohn contains 72 per cent. starch and rolled oats 64 per cent. starch?" Following: "Deduce recipe for cooking farina if the composition is the same as Pettijohn but the weight 2:1."

All recipes can be placed pretty largely under some type; the first of which is determined by experiment, and many others deduced by use of mathematical relations, common-sense, and thinking. Such work makes a thought series. It develops independence in the use of materials and puts the recipe nearer the requirements of a science.

The work ends with a simple luncheon or tea given to the mothers. Here the social value (a strong factor throughout) finds its ultimate expression, and the occasion gives opportunity to develop in the girls "grace in extending hospitality to others."

Thus has the brief outline interpreted the term "domestic science" of the curriculum in the Ethical Culture School. We do not claim ours to be the only interpretation, or even to be the right interpretation; but, in so far as we are able to judge, it certainly is a reasonable, logical, and seemingly educational use of the branch, and an attempt to rescue it from the popular opinion that domestic science aims only to teach a girl to stir up a "fit" cake, to set a table according to Hill, or to clean a dish with the latest patent of "ine."